

# Notice of Allowability

Application No.

10/613,419

Examiner

Lawrence B. Williams

Applicant(s)

FENG ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendments filed on 23 October 2007.
2. ☒ The allowed claim(s) is/are 1,2,5,7 and 9-36, renumbered as 1-2, 3, 4, 5-32, respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance: The instant application discloses a method and apparatus for encoding and transmitting the side information related to peak-to-average power ratio reduction in a multicarrier system. A search of prior art records has failed to teach or suggest alone or in combination a method for encoding and transmitting the side information related to peak-to-average power ratio reduction in a multicarrier system, comprising the steps of:

“(a) performing multicarrier modulation for the data to be transmitted and generating a data modulated signal, then executing a procedure related to said PAPR reduction; (b) encoding said side information for generating coded side information; (c) allocating a plurality of sub-carriers for transmitting said coded side information; (d) performing multicarrier modulation for said coded side information and generating a side information modulated signal; and (e) attaching said side information modulated signal to said data modulated signal for generating a transmitted signal; wherein said PAPR reduction procedure is based on either a PAPR level of said data modulated signal or that of said transmitted signal to determine PAPR reduction parameters which are side information” as disclosed in claim 1.

“(a) performing multicarrier modulation for the data to be transmitted and generating a data modulated signal, then executing a procedure related to said PAPR reduction; side information and generating two groups of coded side (b) encoding said information; (c) allocating two groups of a plurality of sub-carriers for transmitting said two groups of coded side information respectively; (d) combining one of said two groups of coded side information with said data modulated signal; (e) modulating the other group of said two groups of coded side

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information and generating a side information modulated signal; and (f) attaching said side information modulated signal to said data modulated signal for generating a transmitted signal; wherein said PAPR reduction procedure is based on either a PAPR level of said data modulated signal or that of said transmitted signal” as disclosed in claim 10.

Nor does the prior art teach an apparatus for encoding and transmitting the side information related to peak-to-average power ratio (PAR) reduction in a multicarrier system, comprising:

“a multicarrier modulator for modulating data onto multiple sub-carriers and generating a data modulated signal, wherein said multicarrier modulator comprises a PAPR reduction device to reduce a PAPR level of said data modulated signal and reserves a plurality of sub-carriers for encoding and transmitting said side information; a side information coding and modulation device for coding and modulating said side information onto said plurality of sub-carriers and generating a side information modulated signal; an adder for combining said data modulated signal and said side information modulated signal, and generating a transmitted signal; and a parameter control device for PAPR reduction for determining said side information according to a PAPR level of said data modulated signal” as disclosed in claim 19.

“a multicarrier modulator for modulating data onto multiple sub-carriers and generating a data modulated signal, wherein said multicarrier modulator comprises a PAPR reduction device to reduce a PAPR level of said data modulated signal and reserves a plurality of sub-carriers for encoding and transmitting said side information; a side information coding and modulation

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device for coding and modulating said side information onto said plurality of sub-carriers and generating a side information modulated signal; an adder for combining said data modulated signal and said side information modulated signal, and generating a transmitted signal; and a parameter control device for PAPR reduction for determining said side information according to a PAPR level of said transmitted signal” as disclosed in claim 28.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### **DRAWINGS**

2. The drawings were received on 31 January 2007. These drawings are accepted by the examiner.

### **CONCLUSION**

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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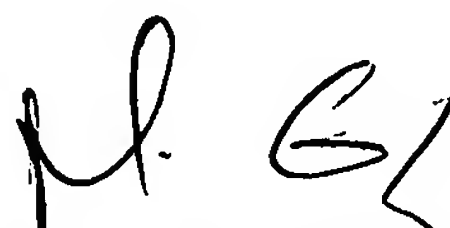
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams



lbw

November 7, 2007



**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**